

## **CLAIMS**

What is claimed is:

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1. A radio system for wirelessly linking digital devices, comprising:  
an RF transceiver embodied on a PC expansion card;  
a host controller for detecting and operating said RF transceiver expansion card,  
wherein said controller includes logic sets for detecting and operating a plurality of  
expansion card types; and

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a digital baseband portion, connectable to said transceiver, for establishing and  
managing said wireless links, said baseband portion including a plurality of components,  
wherein at least one of said components is integrated on said host controller.

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2. The radio system of Claim 1, wherein said RF transceiver expansion card  
includes only said RF transceiver, and wherein all components of said digital baseband  
are integrated on said host controller.

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3. The radio system of Claim 1, wherein said transceiver expansion card includes  
base band components not integrated on said host controller.

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4. The radio system of Claim 1, wherein said transceiver expansion card further  
comprises an RF antenna.

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5. The radio system of Claim 1, wherein said components include one or more of:  
a baseband core;  
at least one memory;  
signal processing means;  
a lower link controller; and  
at least one bus bridge.

6. The radio system of Claim 5, wherein said signal processing means comprises  
an interface between said RF transceiver and said lower link controller.

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7. The radio system of Claim 1, wherein said controller comprises a host controller.

8. The radio system of Claim 7, wherein said logic sets include:  
a first logic set for detecting and operating 16-bit PC cards;  
a second logic set for detecting and operating 32-bit PC cards; and

a third logic set for detecting and operating said RF transceiver expansion card.

9. The radio system of Claim 1, wherein said transceiver expansion card is received in an expansion card slot on a digital device during use, so that said transceiver expansion card and said controller are electrically connected.

10. The radio system of Claim 1, wherein said system, said transceiver and said baseband are Bluetooth compatible.

11. The radio system of Claim 1, wherein said system, said transceiver and said baseband are compatible with a Wireless LAN Standard.

12. A method of detecting the presence of an expansion card using conventional PC card specification signal lines, said method comprising the steps of:

determining the signal state of first and second card detection signal lines;  
determining the signal state of first and second voltage select signal lines;  
determining if said first and/or second card detection signal lines, or said first and/or second voltage select signal lines, comprise a signal state that is reserved by a PC Card signal specification; and  
determining the signal state of a predetermined unused PC Card signal line, relative to said reserved signal state.

13. The method of Claim 12, further comprising the steps of:

determining the presence of a RF transceiver expansion card by determining whether said first card detection signal and said second voltage select signals are tied together.

14. The method of Claim 12, wherein said steps of determining said signal lines comprise the steps of:

polling said signal lines with a predetermined input signal; and  
measuring an output signal.

15. A device to detect the presence of an expansion card using conventional PC Card specification signal lines, said device comprising a state machine including a lookup table and a plurality of logic sets, each of said logic sets operable to interface with a certain predefined expansion card type, said state machine accepting as input signals a plurality of predetermined card detection and voltage selection signals, and an additional signal, and coupling an appropriate one of said logic sets to an appropriate one of said expansion card based on a match between said input signals and said lookup table.

16. The device of Claim 15, wherein said logic sets include a first logic set to operate a 16-bit expansion card, a second logic set to operate a 32 bit expansion card and a third set to operate a RF transceiver expansion card or network interface card (NIC).

17 The device of Claim 15, wherein said lookup table comprises a plurality of assigned signal state definitions for said input signals, said signal state definitions including interface type and operating voltage for a plurality of expansion card types.

18. The device of Claim 15, wherein said additional signal comprises a signal that is not assigned for use during a card detection event by a PC Card specification.

19. The device of Claim 18, wherein said additional signal is a status change (STSCHG) signal.

20. An integrated circuit for detecting and operating a plurality of expansion card types, comprising:

a first logic set for detecting and operating a plurality of expansion card types, said first logic set having predetermined signal lines and a pinout arrangement defined according to PC Card specifications, and a second logic set for detecting and operating a Bluetooth compatible radio unit embodied on a PC expansion card, or a Wireless LAN NIC, said first and second logic set being incorporated into a single controller, and wherein said second logic set is adapted to reassign certain ones of said predetermined signal lines to detect and operate said Bluetooth PC card or Wireless LAN NIC without requiring additional pinouts.